

Energy Management

What is Energy Management?

- The Answer is Not Short & Sweet!
- It is a process of obtaining and understanding a buildings use and operating procedures, resulting in the development and implementation of a plan to reduce the energy consumption.

Goals for a School Energy Plan

- To improve the learning and teaching environment while increasing energy efficiency and reducing energy use.

Energy Management No Longer an Option!

- The new century began with many school districts facing large increases in energy unit costs.
- Some of these increases were due to deregulation of utilities in many states.
- In these districts energy management was no longer a luxury!

Base Line Savings

- You cannot determine how much energy you save until you know how much energy you use!
- You must establish an energy baseline!





Warren County Schools

Saving Energy with Energy Education, Inc.

**37 Months
December 2003 – December 2006**



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Warren County Schools Energy Conservation Program

Energy Savings To Date:

\$2,220,129

28%

37 months into energy program



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Energy Cost Analysis

December 2003 – December 2006

Expected Energy Costs

\$7,944,701



Expected Energy Costs

- Amount district would have spent on energy without energy program
- Base year usage adjusted for changes in weather, energy loads and prices

Actual Energy Costs

- Actual energy costs for electricity, water, sewer, and gas as a result of energy program

Cost Avoidance

- Program implementation resulting in behavior changes
- Energy Education training and support
- Reductions in equipment run times



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Warren County Schools

Energy Program Success

Success Factors

1. **Teamwork** — All district personnel
2. **Data analysis** — Energy Educator/Manager
3. **On-site training and expertise** — Energy Education, Inc.
4. **Comprehensive facility audits** — Expert identification of energy conservation opportunities throughout district facilities

Program Benefits and Features

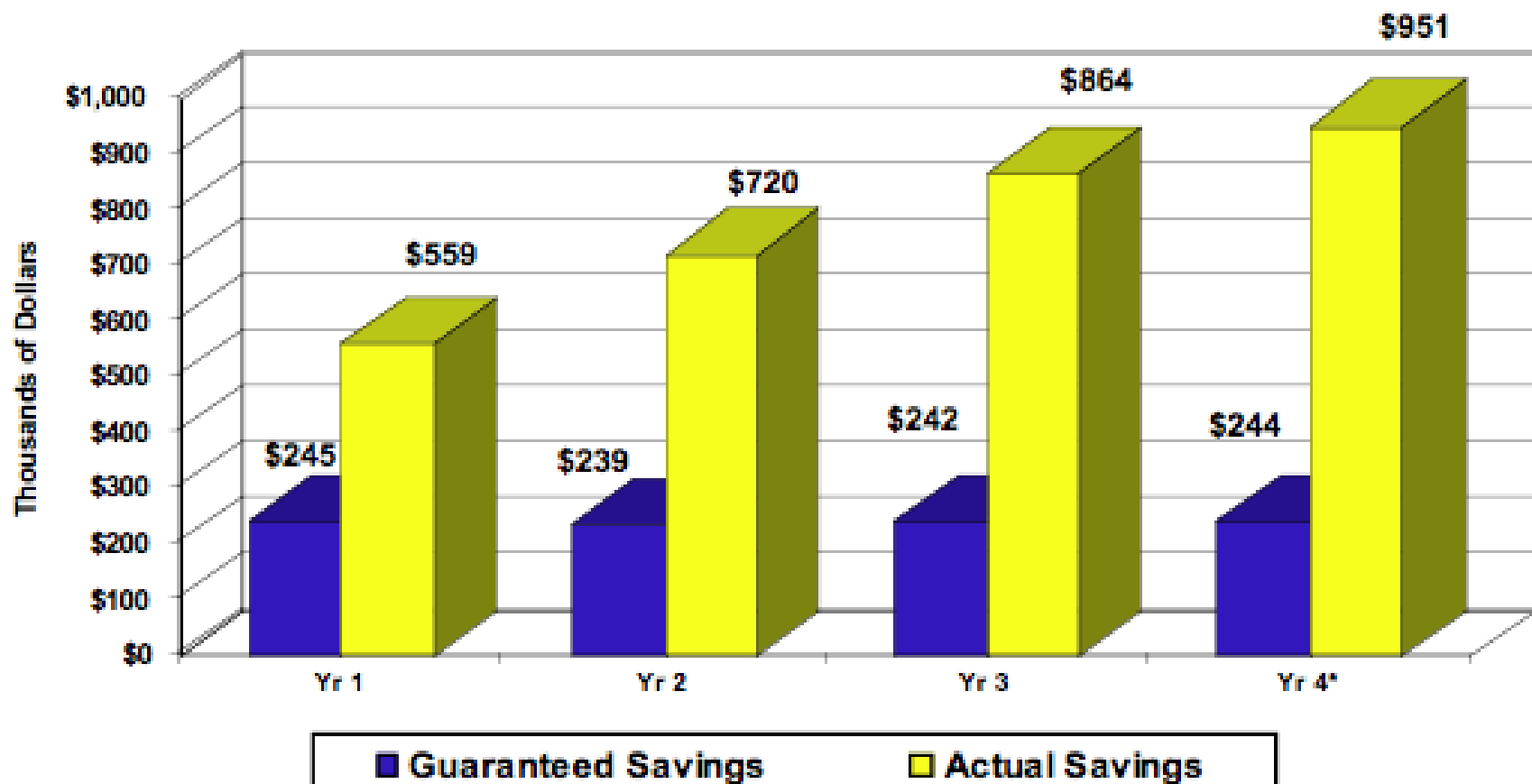
1. **Budget** — Dollars retained for educational purposes
2. **Environmental** — Conservation of natural resources
3. **Self-funding program** — Conservation activities generate savings which pay for the program
4. **Longevity** — Program designed to be ongoing, with free support from Energy Education after paid contract term



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Warren County Schools

Guaranteed vs Actual Savings

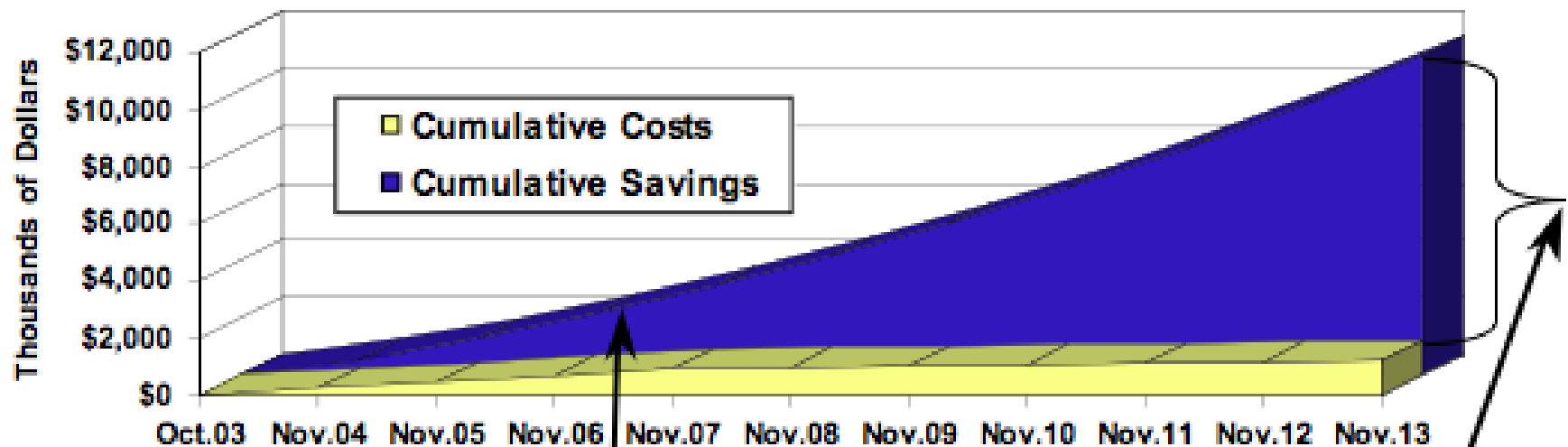


*Dec of Year 4 is actual data. The rest of Year 4 is projected based on historical comparisons.



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Warren County Schools 10-Year Projected Savings



Gross savings to date:

- \$2,220,129
- 28%

Projected net savings:

- November, 2013
- \$9,938,000

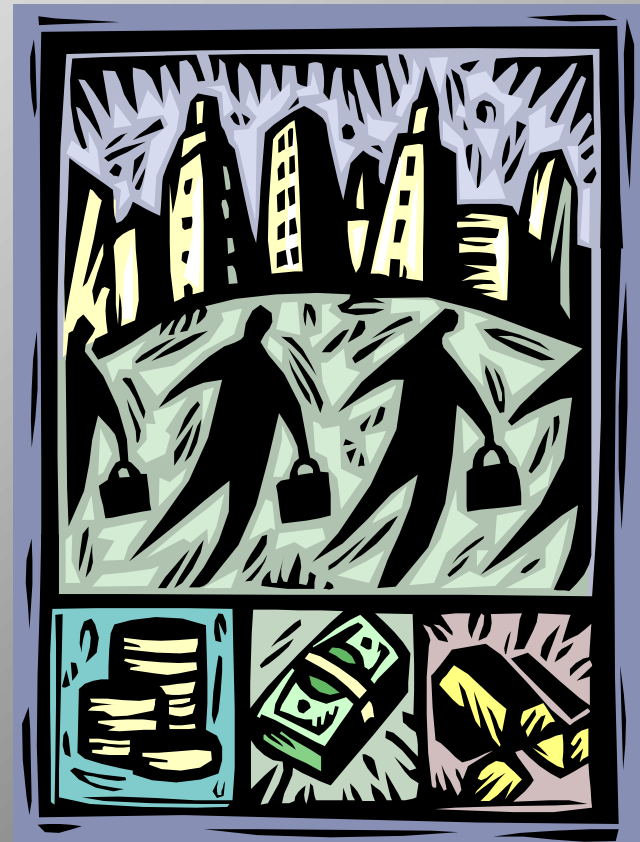
**Continued Growth of District Success With EEI
Support**



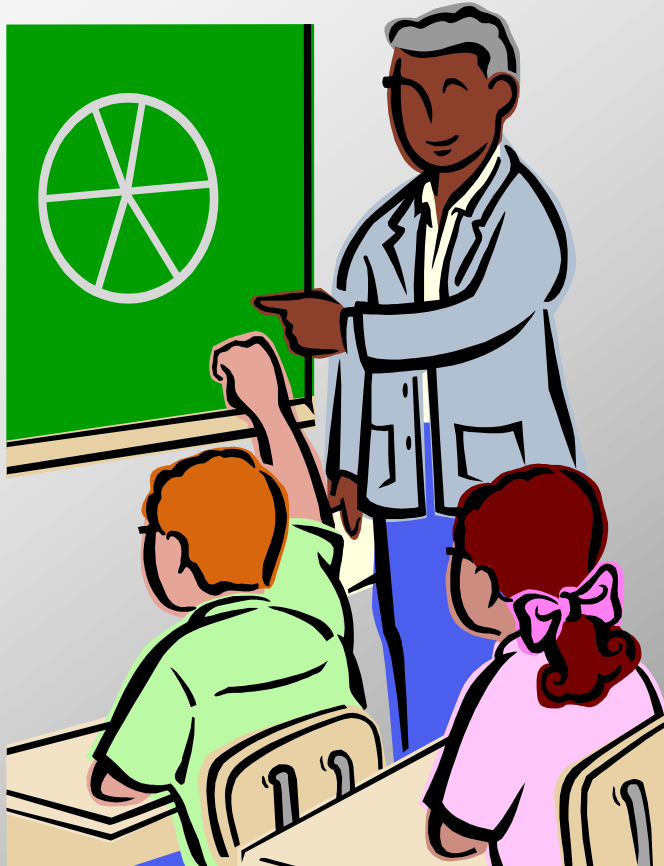
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Major Impact on the Costs

- Natural Disasters
- Hurricanes
- Terrorism
- Iraq War
- In some areas, Electrical Rates have increased from 15% to more than 100%



Energy Education



- Energy education is increasingly becoming part of the school curriculum.
- Administrators are being rated on building energy performance.

Energy Education Cont.

- School Boards are more aware of the importance of energy management and how it can impact the educational programs both financially and instructionally.
- School districts have become more aware of the condition of existing equipment, need for preventative maintenance, and a comprehensive equipment upgrade program.

Changes in Design

- Changes must also be made in design.
- Day-Lighting
- Occupancy Sensors
- Proper sizing of HVAC
- Outside air intake

